

Fructose – description, benefits, effect on the body and the best sources.

Tkacheva Natalya, herbalist, nutritionist

Eliseeva Tatyana, editor-in-chief of the EdaPlus.info project

E-mail: tkacheva.n@edaplus.info, eliseeva.t@edaplus.info

Abstract. Summer. It's sunny time, when such fragrant and aromatic fruits and berries ripen, bees swarm, collecting nectar and pollen. Honey, apples, grapes, pollen and some root vegetables contain, in addition to numerous vitamins and minerals, such an important nutritional component as fructose.

Key words: Fructose, general characteristics, daily requirement, digestibility, beneficial properties, signs of deficiency, signs of excess

Fructose-rich foods:

- Corn syrup
- Refined sugar
- Agave dry
- Bee honey [1]
- Raisin
- Figs
- Chocolate
- Dried apricots
- Ketchup
- Blueberry
- Grapes [2]
- Apples [3]
- Bananas [4]
- Pears [5]
- Peaches [6]

General characteristics of fructose

Fructose, or *fruit sugar*, is most often found in sweet plants and foods. From a chemical point of view, fructose is a monosaccharide that is part of sucrose. Fructose is 1.5 times sweeter than sugar and 3 times sweeter than glucose! It belongs to the group of easily digestible carbohydrates, although its glycemic index (the rate of absorption by the body) is significantly lower than that of glucose.

Fructose is produced artificially from sugar beets [7] and corn [8].

Its production is most developed in the USA and China. Used as a sweetener in products intended for patients with diabetes. It is not recommended for healthy people to use it in concentrated form, since fructose has a number of features that cause concern among nutritionists.

Research is currently being conducted to study its characteristics and test its ability to increase the number of fat cells in the body.

Daily requirement for fructose

Doctors are not unanimous on this issue. Figures are quoted from 30 to 50 grams per day. Moreover, 50 grams per day is usually prescribed to diabetics, who are advised to limit or completely eliminate sugar consumption.

The need for fructose increases:

Active mental and physical activity associated with high energy costs requires energy replenishment. And fructose contained in honey and plant products can relieve fatigue and give the body new strength and energy.

The need for fructose decreases:

- excess body weight is an absolute contraindication to indulgence in sweet foods;
- recreation and low-energy (low-cost) activities;
- evening and night time.

Fructose digestibility

Fructose is absorbed by the body with the help of liver cells, which convert it into fatty acids. Unlike sucrose and glucose, fructose is absorbed by the body without the help of insulin, which is why it is used by diabetics and is recommended as part of foods necessary for a healthy diet.

Beneficial properties of fructose and its effect on the body

Fructose tones the body, blocks the occurrence of caries, provides energy and stimulates brain activity. At the same time, it is absorbed by the body more slowly than glucose and does not increase blood sugar levels, which has a beneficial effect on the health of the endocrine system.

Interaction with Essential Elements

Fructose is soluble in water. It also interacts with some sugars, fatty and fruit acids.

Signs of fructose deficiency in the body

Apathy, irritability, depression [9] and loss of strength for no apparent reason may be evidence of a lack of sweets in the diet. A more severe form of fructose and glucose deficiency in the body is nervous exhaustion.

Signs of excess fructose in the body

- Excess weight. [10] As mentioned earlier, more fructose is processed by the liver into fatty acids, and, therefore, can be stored “in reserve.”
- Increased appetite. It is believed that fructose suppresses the hormone leptin, which controls our appetite, and the brain does not receive a signal of satiety.

Factors influencing fructose content in the body

Fructose is not produced by the body and enters it with food. In addition to fructose, which comes directly from natural products containing it, it can enter the body with the help of sucrose, which, when absorbed in the body, breaks down into fructose and glucose. And also in refined form as part of overseas syrups (from agave and corn), in various drinks, some sweets, baby food and juices.

Fructose for beauty and health

The opinion of doctors about the usefulness of fructose is somewhat ambiguous. Some believe that fructose is very useful, since it prevents the development of caries and plaque, does not burden the pancreas, and is also much sweeter than sugar. Others claim that it promotes obesity and causes the development of gout. But all doctors are unanimous on one thing: fructose, contained in various fruits and vegetables, and consumed in normal quantities for humans, cannot bring anything but benefit to the body. Basically, discussions are being held about the effect of refined fructose on the body, which some highly developed countries are especially keen on.

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Eliseeva Tatyana, editor-in-chief of the EdaPlus.info project

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